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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/069,003 | 05/13/2002 | Peter Ehrhart | 31812-17828 | 4537 |

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Venable
Post Office Box 34385
Washington, DC 20043-9998

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| EXAMINER |
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ELKASSABGI, HEBA

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2834 | |

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/069,003 | EHRHART ET AL. |
| | Examiner | Art Unit |
| | Heba Elkassabgi | 2834 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 13 March 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1,4-14 is/are pending in the application.

4a) Of the above claim(s) 2-3 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1 and 4-11 is/are rejected.

7) Claim(s) 12,13,14 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 13 March 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____ .

2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . 6) Other: _____ .

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10069003, filed on 02/20/2002. ***Drawings***

The drawings were received on 03/31/2003. The examiner accepts these drawings and the drawing objection in the previous office action are withdrawn.

Specification

The examiner withdraws the specification objection due to applicant's amendment to the specification filed on 03/31/2003.

Claim Objections

The examiner withdraws the claim objection due to applicant's amendment filed 03/31/2003.

Claim Rejections - 35 USC § 112

The examiner withdraws the 35 USC § 112 objections due to applicants amendment filed on 03/31/2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,4,5,6,7,8,9,10 and 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Haydock et al. (U.S. Patent 6376957) and further in view of Pezzillo (U. S. Patent 3135211) and Washizu et al. (U.S. Patent 4227108) and Beckwith (U.S. 2761987)

Haydock et al. discloses in Figure 2 an electric machine comprising a stator part (10) with stator teeth (17) of that are provided with coil windings (15), a rotor part (11) arranged coaxially with respect to the stator part (10) and located opposite the stator part (10) so as to leave free an air gap (19), between, the rotor part (11) having discrete poles (12) that project in the direction towards the stator part (10). A stator part (10) and the rotor part (11) with its rotor poles (12) are coaxial and the stator part (10) has a smaller diameter than the rotor part (11) with its rotor poles (12). The stator part (10) with its stator teeth (17) and the rotor part (11) are coaxial and the stator part (10) with its stator teeth (17) has a larger diameter than the rotor part (11). The coil windings (15) of the stator part (10) comprise individual coils (15) that are not interlinked. However, Haydock et al. does not disclose a stator having channels and a first and second sealing layer and a stator having internal flow passages.

Washizu et al. Discloses in figure 5 a channel (23) channelizing coolant flow to at least partial section of the coil windings (8) of the stator part (10). a liquid cooling medium for flowing in the channel (23). Further more an enclosed stator part (10) in its entirety, with an enclosure that includes at least one coolant supply (23) and at least one coolant discharge (23) in order to cool the stator.

Pezzillo discloses in Figure 1 a stator (6) that is coaxial with the rotor (10) and that an air gap is between the stator (6) and the rotor (10) with a sealing layer (50 and 44) on the stator part (6) facing an air gap. The sealing layer (50 and 44) comprising a first layer (50) and a second layer (44), in order to enclose the liquid coolant from the rotor.

Beckwith discloses in Figure 5 an electric machine having a stator core (29) with stator teeth (22) having internal flow passages (31) with at least one rib opening on the inner circumferential area (32) of the stator core (22) that is directed away from the rotor part (11) and that the internal flow passages on the stator core provides the core with a cooling ventilation.

It would have been obvious to one of ordinary skill in the art to combine the stator structure of Haydock et al. with the stator casing channels of Washizu et al. in order to for there to be a at least one coolant supply and discharge to cool the stator and the sealing layers of Pezzillo in order to enclose the coolant

within the stator and the internal flow passages of Beckwith in order to cool the stator core.

Haydock et al., Washizu et al., Pezzillo and Beckwith disclose the claimed invention except for the stator and rotor part being of magnetically conductive material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a suitable material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Allowable Subject Matter

Claim 12,13,14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not discloses an internal cooling circuit for circulating the cooling medium and a second, external cooling circuit for circulating another cooling medium the external cooling circuit being connected to the internal cooling circuit via a heat exchanger with a circulation pump coupled to the internal cooling circuit, and an internal cooling circuit and the heat exchanger are integrated in a common space on the reluctance electric machine.

Response to Arguments

Applicant's arguments filed 03/13/2003, with respect to the rejections of claims 1-14, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of Haydock et al., Washizu et al., and Pezzillo.

Additionally, the examiner would like to note to the applicants that claim #1 maybe overcome if applicant were to further disclose that the both sealing layers extend to cover the entire air gap and that the channels are on the sides of the stator casing.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (6:30-3:30), and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HYE

KARL TAMAI
PRIMARY EXAMINER

